Cancel p. 78

## Sequence Listing

<110> CENTRE NATIONAL D'ETUDES VETERINAIRES ET ALIMENTAIRES - CNEVA

<120> GENOMIC AND POLYPEPTIDE CIRCOVIRUS SEQUENCE ASSOCIATED WITH PIGLET WEIGHT LOSS DISEASE (PWD), APPLICATIONS TO DIAGNOSIS AND TO THE PREVENTION AND/OR TO THE TREATMENT OF THE INFECTION

<130> D17221

<140>
<141>

<150> FR 97 15396
<151> 1997-12-05

<160> 20

<170> PatentIn Vers. 2.0

<210> 1
<211> 1759
<212> Genomic DNA
<213> Type A PWD circovirus

<220>
<223> + Polarity strand (5'-3')

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<210> 2
<211> 1759
<212> Genomic DNA
<213> Type A PWD circovirus
<220>
<223> Polarity strand - (5'-3')

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<211> 939
<212> DNA
<213> Type A PWD circovirus

<220> ORF1

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gtttgtggcg aggaaggttt ggaagagggt agaactcctc acctccaggg gtttgcgaat 180
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gtgagaaatt tccgcgggct ggctgaactt ttgaaagtga gcgggaagat gcagcagcgt 480
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gcccgtaatt ttgctgagcc tagggacacc tactggaagc ctagtagaaa taagtggtgg 600
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<210> 4
<211> 702
<212> DNA
<213> Type A PWD circovirus
<220> ORF2

<400> 4
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<210> 5
<211> 621
<212> GENOMIC DNA
<213> Type A PWD circovirus

<220> ORF3

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<210> 6
<211> 312
<212> PRT
<213> Type A PWD circovirus

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Thr Leu Asn Asn Pro Ser Glu Glu Glu Lys Asn Lys Ile Arg Glu Leu
20 25 30

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Pro Ile Ser Leu Phe Asp Tyr Phe Val Cys Gly Glu Glu Gly Leu Glu
         35                  40                  45

Glu Gly Arg Thr Pro His Leu Gln Gly Phe Ala Asn Phe Ala Lys Lys
     50                  55                  60

Gln Thr Phe Asn Lys Val Lys Trp Tyr Phe Gly Ala Arg Cys His Ile
 65                  70                  75                  80

Glu Lys Ala Lys Gly Thr Asp Gln Gln Asn Lys Glu Tyr Cys Ser Lys
                 85                  90                  95

Glu Gly His Ile Leu Ile Glu Cys Gly Ala Pro Arg Asn Gln Gly Lys
            100                 105                 110

Arg Ser Asp Leu Ser Thr Ala Val Ser Thr Leu Leu Glu Thr Gly Ser
        115                 120                 125

Leu Val Thr Val Ala Glu Gln Phe Pro Val Thr Tyr Val Arg Asn Phe
    130                 135                 140

Arg Gly Leu Ala Glu Leu Leu Lys Val Ser Gly Lys Met Gln Gln Arg
145                 150                 155                 160

Asp Trp Lys Thr Ala Val His Val Ile Val Gly Pro Pro Gly Cys Gly
                165                 170                 175

Lys Ser Gln Trp Ala Arg Asn Phe Ala Glu Pro Arg Asp Thr Tyr Trp
            180                 185                 190

Lys Pro Ser Arg Asn Lys Trp Trp Asp Gly Tyr His Gly Glu Glu Val
        195                 200                 205

Val Val Leu Asp Asp Phe Tyr Gly Trp Leu Pro Trp Asp Asp Leu Leu
    210                 215                 220

Arg Leu Cys Asp Arg Tyr Pro Leu Thr Val Glu Thr Lys Gly Gly Thr
225                 230                 235                 240

Val Pro Phe Leu Ala Arg Ser Ile Leu Ile Thr Ser Asn Gln Ala Pro
                245                 250                 255

Gln Glu Trp Tyr Ser Ser Thr Ala Val Pro Ala Val Glu Ala Leu Tyr
            260                 265                 270

Arg Arg Ile Thr Thr Leu Gln Phe Trp Lys Thr Ala Gly Glu Gln Ser
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Thr Glu Val Pro Glu Gly Arg Phe Glu Ala Val Asp Pro Pro Cys Ala
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Leu Phe Pro Tyr Lys Ile Asn Tyr
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<210> 7
<211> 233
<212> PRT

<213> Type A PWD circovirus

<400> 7

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Ala Phe Arg Asn Arg Tyr Arg Trp Arg Arg Lys Thr Gly Ile Phe Asn
        35                  40                  45

Ser Arg Leu Ser Arg Glu Phe Val Leu Thr Ile Arg Gly Gly His Ser
    50                  55                  60

Gln Pro Ser Trp Asn Val Asn Glu Leu Arg Phe Asn Ile Gly Gln Phe
65                  70                  75                  80

Leu Pro Pro Ser Gly Gly Thr Asn Pro Leu Pro Leu Pro Phe Gln Tyr
                85                  90                  95

Tyr Arg Ile Arg Lys Ala Lys Tyr Glu Phe Tyr Pro Arg Asp Pro Ile
            100                 105                 110

Thr Ser Asn Gln Arg Gly Val Gly Ser Thr Val Val Ile Leu Asp Ala
        115                 120                 125

Asn Phe Val Thr Pro Ser Thr Asn Leu Ala Tyr Asp Pro Tyr Ile Asn
    130                 135                 140

Tyr Ser Ser Arg His Thr Ile Arg Gln Pro Phe Thr Tyr His Ser Arg
145                 150                 155                 160

Tyr Phe Thr Pro Lys Pro Glu Leu Asp Gln Thr Ile Asp Trp Phe Gln
                165                 170                 175

Pro Asn Asn Lys Arg Asn Gln Leu Trp Leu His Leu Asn Thr His Thr
            180                 185                 190

Asn Val Glu His Thr Gly Leu Gly Tyr Ala Leu Gln Asn Ala Thr Thr
        195                 200                 205

Ala Gln Asn Tyr Val Val Arg Leu Thr Ile Tyr Val Gln Phe Arg Glu
    210                 215                 220

Phe Ile Leu Lys Asp Pro Leu Asn Glu
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<210> 8
<211> 206
<212> PRT
<213> Type A PWD circovirus

<400> 8

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            20                  25                  30

Arg Ala His Tyr Asp Val Tyr Ser Cys Leu Pro Ile Thr Leu Leu His
        35                  40                  45

Leu Pro Ala His Phe Gln Lys Phe Ser Gln Pro Ala Glu Ile Ser His
    50                  55                  60

Ile Arg Tyr Arg Lys Leu Leu Gly Tyr Ser His Gln Arg Pro Arg Leu
65                  70                  75                  80

Gln Lys Gly Thr His Ser Ser Arg Gln Val Ala Ala Leu Pro Leu Val
                85                  90                  95

Pro Arg Ser Ser Thr Leu Asp Lys Tyr Val Ala Phe Phe Thr Ala Val
            100                 105                 110

Phe Phe Ile Leu Leu Val Gly Ser Phe Arg Phe Leu Asp Val Ala Ala
        115                 120                 125

Gly Thr Lys Ile Pro Leu His Leu Val Lys Ser Leu Leu Leu Ser Lys
    130                 135                 140

Ile Arg Lys Pro Leu Glu Val Arg Ser Ser Thr Leu Phe Gln Thr Phe
145                 150                 155                 160

Leu Ala Thr Asn Lys Ile Ile Lys Lys Gly Asp Trp Lys Leu Pro Tyr
                165                 170                 175


Phe Val Phe Leu Leu Leu Gly Arg Ile Ile Lys Gly Glu His Pro Pro
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Leu Met Gly Leu Arg Ala Ala Phe Leu Ala Trp His Phe His
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<210> 9
<211> 1767
<212> Genomic DNA
<213> Type B PWD circovirus

<220> Polarity strand + (5'-3')

<400> 9

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<210> 10
<211> 1767
<212> GENOMIC DNA
<213> Type B PWD circovirus

<220> Polarity strand - (5'-3')

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<210> 11
<211> 945

<212> DNA
<213> Type B PWD circovirus

<220> ORF1

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<210> 12
<211> 702
<212> DNA
<213> Type B PWD circovirus

<220> ORF2

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aaaaatggca tcttcaacac ccgcctctcc cgcaccttcg gatatactgt caagcgaacc 180
acagtcagaa cgccctcctg ggcggtggac atgatgagat tcaatattaa tgactttctt 240
cccccaggag gggggtcaaa cccccgctct gtgccctttg aatactacag aataagaaag 300
gttaaggttg aattctggcc ctgctccccg atcacccagg gtgacagggg agtgggctcc 360
agtgctgtta ttttagatga taactttgta acaaaggcca cagccctcac ctatgacccc 420
tatgtaaact actcctcccg ccataccata acccagccct tctcctacca ctcccggtac 480
tttacccccа aacctgtcct agatttcact attgattact tccaaccaaa caacaaaaga 540
aaccagctgt ggctgagact acaaactgct ggaaatgtag accacgtagg cctcggcact 600
gcgttcgaaa acagtatata cgaccaggaa tacaatatcc gtgtaaccat gtatgtacaa 660
ttcagagaat ttaattttaa agacccccca cttaaccctt aa 702

<210> 13
<211> 315
<212> DNA
<213> Type B PWD circovirus

<220> ORF3

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agtcttccaa tcacgcttct gcattttccc gctcactttc aaaagttcag ccagcccgcg 180
gaaatttctg acaaacgtta cagggtgctg ctctgcaacg gtcaccagac tcccgctctc 240
caacaaggta ctcacagcag tagacaggtc actccgttgt ccctgagatc taggagctcc 300
acactccatc agtaa 315

<210> 14
<211> 314
<212> PRT
<213> Type B PWD circovirus

<400> 14

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Met Pro Ser Lys Lys Asn Gly Arg Ser Gly Pro Gln Pro His Lys Arg
  1               5                  10                  15

Trp Val Phe Thr Leu Asn Asn Pro Ser Glu Asp Glu Arg Lys Lys Ile
             20                  25                  30

Arg Asp Leu Pro Ile Ser Leu Phe Asp Tyr Phe Ile Val Gly Glu Glu
         35                  40                  45

Gly Asn Glu Glu Gly Arg Thr Pro His Leu Gln Gly Phe Ala Asn Phe
     50                  55                  60

Val Lys Lys Gln Thr Phe Asn Lys Val Lys Trp Tyr Leu Gly Ala Arg
 65                  70                  75                  80

Cys His Ile Glu Lys Ala Lys Gly Thr Asp Gln Gln Asn Lys Glu Tyr
                 85                  90                  95

Cys Ser Lys Glu Gly Asn Leu Leu Met Glu Cys Gly Ala Pro Arg Ser
            100                 105                 110

Gln Gly Gln Arg Ser Asp Leu Ser Thr Ala Val Ser Thr Leu Leu Glu
        115                 120                 125

Ser Gly Ser Leu Val Thr Val Ala Glu Gln His Pro Val Thr Phe Val
    130                 135                 140

Arg Asn Phe Arg Gly Leu Ala Glu Leu Leu Lys Val Ser Gly Lys Met
145                 150                 155                 160

Gln Lys Arg Asp Trp Lys Thr Asn Val His Val Ile Val Gly Pro Pro
                165                 170                 175

Gly Cys Gly Lys Ser Lys Trp Ala Ala Asn Phe Ala Asp Pro Glu Thr
            180                 185                 190

Thr Tyr Trp Lys Pro Pro Arg Asn Lys Trp Trp Asp Gly Tyr His Gly
        195                 200                 205

Glu Glu Val Val Val Ile Asp Asp Phe Tyr Gly Trp Leu Pro Trp Asp
    210                 215                 220

Asp Leu Leu Arg Leu Cys Asp Arg Tyr Pro Leu Thr Val Glu Thr Lys
225                 230                 235                 240

Gly Gly Thr Val Pro Phe Leu Ala Arg Ser Ile Leu Ile Thr Ser Asn
                245                 250                 255

Gln Thr Pro Leu Glu Trp Tyr Ser Ser Thr Ala Val Pro Ala Val Glu
            260                 265                 270

Ala Leu Tyr Arg Arg Ile Thr Ser Leu Val Phe Trp Lys Asn Ala Thr
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275 280 285

Glu Gln Ser Thr Glu Glu Gly Gly Gln Phe Val Thr Leu Ser Pro Pro
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Cys Pro Glu Phe Pro Tyr Glu Ile Asn Tyr
305 310

<210> 15
<211> 233
<212> PRT
<213> Type B PWD circovirus

<400> 15
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1 5 10 15

Ser His Leu Gly Gln Ile Leu Arg Arg Arg Pro Trp Leu Val His Pro
20 25 30

Arg His Arg Tyr Arg Trp Arg Arg Lys Asn Gly Ile Phe Asn Thr Arg
35 40 45

Leu Ser Arg Thr Phe Gly Tyr Thr Val Lys Arg Thr Thr Val Arg Thr
50 55 60

Pro Ser Trp Ala Val Asp Met Met Arg Phe Asn Ile Asn Asp Phe Leu
65 70 75 80

Pro Pro Gly Gly Gly Ser Asn Pro Arg Ser Val Pro Phe Glu Tyr Tyr
85 90 95

Arg Ile Arg Lys Val Lys Val Glu Phe Trp Pro Cys Ser Pro Ile Thr
100 105 110

Gln Gly Asp Arg Gly Val Gly Ser Ser Ala Val Ile Leu Asp Asp Asn
115 120 125

Phe Val Thr Lys Ala Thr Ala Leu Thr Tyr Asp Pro Tyr Val Asn Tyr
130 135 140

Ser Ser Arg His Thr Ile Thr Gln Pro Phe Ser Tyr His Ser Arg Tyr
145 150 155 160

Phe Thr Pro Lys Pro Val Leu Asp Phe Thr Ile Asp Tyr Phe Gln Pro
165 170 175

Asn Asn Lys Arg Asn Gln Leu Trp Leu Arg Leu Gln Thr Ala Gly Asn
180 185 190

Val Asp His Val Gly Leu Gly Thr Ala Phe Glu Asn Ser Ile Tyr Asp
195 200 205

Gln Glu Tyr Asn Ile Arg Val Thr Met Tyr Val Gln Phe Arg Glu Phe
210 215 220

Asn Phe Lys Asp Pro Pro Leu Asn Pro

225 230

<210> 16
<211> 104
<212> PRT
<213> Type B PWD circovirus

<400> 16
Met Val Thr Ile Pro Pro Leu Val Ser Arg Trp Phe Pro Val Cys Gly
1 5 10 15

Phe Arg Val Cys Lys Ile Ser Ser Pro Phe Ala Phe Thr Thr Pro Arg
20 25 30

Trp Pro His Asn Asp Val Tyr Ile Ser Leu Pro Ile Thr Leu Leu His
35 40 45

Phe Pro Ala His Phe Gln Lys Phe Ser Gln Pro Ala Glu Ile Ser Asp
50 55 60

Lys Arg Tyr Arg Val Leu Leu Cys Asn Gly His Gln Thr Pro Ala Leu
65 70 75 80

Gln Gln Gly Thr His Ser Ser Arg Gln Val Thr Pro Leu Ser Leu Arg
85 90 95

Ser Arg Ser Ser Thr Leu His Gln
100

<210> 17
<211> 15
<212> PRT
<213> Type B PWD circovirus

<400> 17
Val Asp Met Met Arg Phe Asn Ile Asn Asp Phe Leu Pro Pro Gly
1 5 10 15

<210> 18
<211> 15
<212> PRT
<213> Type B PWD circovirus

<400> 18
Gln Gly Asp Arg Gly Val Gly Ser Ser Ala Val Ile Leu Asp Asp
1 5 10 15

<210> 19
<211> 15
<212> PRT
<213> Type B PWD circovirus

<400> 19
Gly Val Gly Ser Ser Ala Val Ile Leu Asp Asp Asn Phe Val Thr
1 5 10 15

<210> 20
<211> 15
<212> PRT
<213> Type B PWD circovirus

<400> 20
Val Asp His Val Gly Leu Gly Thr Ala Phe Glu Asn Ser Ile Tyr
1 5 10 15

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